

RAT

September, 1987

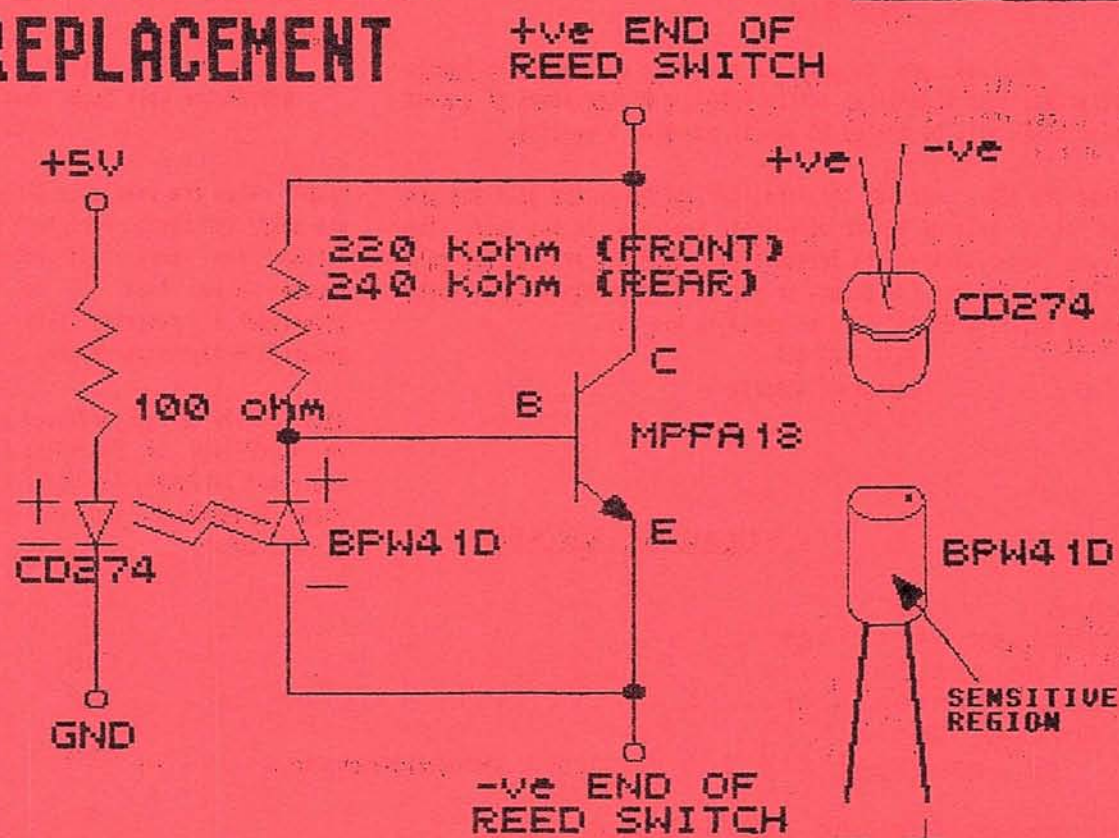
Issue #27

Free

Review of the Edmonton Atari Computer Hobbyists

DRIVE SWITCH REPLACEMENT

1848 DRIVE MODIFICATION
ARTICLE INSIDE!



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The 1987 Atari Canada New Products and Software Showcase

A Report by Rob Rasmussen -- Roving Reporter in Toronto

The products and software showcase look place at the Constellation Hotel in Toronto. Although this show was for Atari dealers and distributors only, I somehow managed to sneak my way in...

The biggest attractions were the new Mega 4 (with a new low profile SH205 3.5" hard disk) and the new Atari laser printer. The system was running some type of desktop program. The printout was fast and super clear (300 dots per inch). Atari was going to release desktop publishing software for the printer, but what comes with the system is unclear at this time. There were rumours that Manhattan Graphics will port their popular Macintosh program "Ready, Set, Go" to the ST. This should mark the beginning of the desktop publishing craze on the ST. The suggested retail prices (CAN):

Mega 2 (2Mb RAM, DSDD drive)	\$2299.95
Mega 4 (4Mb RAM, DSDD drive)	\$3299.95
H205 (low profile 3.5" 20Mb hard drive)	\$1099.95
SLM804 (300 dpi laser printer)	\$2999.95

The Atari PC (Intel 8088 based) was also shown running different IBM compatible software. It looks a lot like the Mega ST's in design. The basic Atari PC will come with 512k RAM, 256k of screen RAM, a 5.25" 360K drive, MS-DOS 3.2, GW Basic, a mouse, GEM desktop, GEM Write, GEM paint, and a detachable keyboard. There was no official price mentioned, but rumours were in the \$800 - \$900 (CAN) range.

Atari introduced the "Scholastics Series" line of ST education software, covering Trigonometry, Chemistry, Geometry, and Statistics.

Also released was a cartridge-based VT 100 terminal emulator, which will retail for \$59.95.

A new video game system was displayed running a new game called "Bug-Hunt," which uses the new laser video gun. The video game system is based on the XE/XL computers, and 100% compatible with any of the XE/XL

software. The system also includes a 62-key, full-stroke detachable keyboard, Atari BASIC, and 64Kb of RAM. Atari was working on some new software for the new game system, so there will be some new stuff for the old 8-bit...

If you are into music, Hybrid Arts had some

wild music running through an ST. They offer a full range of MIDI products for the ST including EZ-Track, a 20-track polyphonic MIDI recorder; EZ-Score, a sheet music printing program; CZ-Android, a patch librarian / editing system for the Casio CZ keyboards; DX-Android, a patch librarian / editing system for the Yamaha DX and TX; GenPatch ST, a generic patch librarian system for all MIDI devices; MIDITrack ST, a professional MIDI recorder; and ADAP Soundrack, a 16-bit digital audio workstation for music professionals. There was also a 16-track polyphonic MIDI sequencer from Legend Software Systems of Edmonton. Called "The Final Cut 1.0," a new version will be released in September 1987.

ICD was also present. Products include: Printer Connection (universal printer cable); P:R: Connection (8-bit Centronics, RS-232 serial ports); 80 Column Adapter (80 columns for 8-bit, even supports RGBI); US Doubler (true double density for 1050, speeds I/O by 300%); Sparta DOS Construction Set (ultimate DOS for the 8-bit); Sparta DOS X (cartridge based DOS, instant and uses less memory); R-Time 8 (cartridge based clock w/ 5-year battery, uses no memory and has through port for extra cartridge slot. Used with Sparta DOS.); and Rambo XL (a 256K memory upgrade for the 800XL and 1200XL, comes with Sparta DOS, can support 192K ramdisk). I finally got to see the Multi I/O board; this is an incredible expansion for the 8-bit. It comes with either 1Mb or 256K (can be expanded to 1 Mb). Built-in software allows the RAM to be partitioned into multiple ramdisks. It comes with it's own power supply, and will retain it's power after the computer has been turned off. It comes with 1 parallel port and 2 serial ports (the 850 handler is built in). The RAM can be allocated for a printer spooler, so no computer time is wasted. Here comes the wild part, the unit can support 8 SASI or SCSI at the same time... so you can use inexpensive 5.25" or 3.5" hard drives.

Getting back to the ST, I had a chance to play MIDI-MAZE. The program was great; up to 16 different ST's can play at the same time. The object of the game is to blast the different happy faces. The animation and the graphics were very good. The program will be released

by Xanth FX.

Sierra On-Line was showing "Land of the Lounge Lizard"; this was the best graphics and animation I have seen so far from Sierra. The adventure was quite funny and interesting.

MichTron had several new programs including "ST-Reply" (a sound digitizer), "Air-Ball" (an arcade-type game with super graphics), "DigiDrum" (digitized drum machine), "Goldrunner" (shoot-'em-up arcade game), "Super Conductor" (16 track MIDI sequencing package), "GFA Draft" (2D CAD), "TRIMbase" (data management system), "Journey to the Lair" (laser video adventure game), and "Shuttle II" (shuttle simulator game). MichTron had a few more new titles, but I didn't catch the names...

Antic was demoing their "Cyber Studio," which consists of Tom Hudson's "CAD-3D 2.0" and Mark Kimball's "Cybermate" (language and editor). This was an incredible display of 3D animation. The Cybermate can turn a 1Mb ST into a 10Mb frame buffer. This is done through a special data compression format. Up to 1000 frames can be held at one time.

Magic Sac was showing their "Translator," a Macintosh drive for the ST. This was a popular booth, and getting close to the machine was almost impossible.

Abacus was showing "ChartPak ST," a professional quality charting and graphics program. It can be used with DEGAS, PaintPro, and PowerLedger ST. "BECKERtext" is Abacus' new entry into the ST word processing market. Also from Abacus is "Electra Spell," a 30000 word spelling checker that can be used with any ASCII file format.

QMI was showing their "DeskCart," a desk accessory cartridge with a battery operated clock. Some of the cartridge's features include a calendar/clock, calculator, keyboard macros, appointments/alarms, address book/dialer, ramdisk, control panel, notebooks, typewriter, disk utilities, screen dump, cardfile, VT 52 emulator, disk formatter, and memory test.

QMI also carries a telecommunication program called "ST-Talk Professional 2.0," which supports VT-220, VT-100, VT-52, Atari & Videx modes, X-modem, batch Y-modem and F-modem. You can archive and dearchive within the program. It also has a built-in editor, and a script language. "BB/ST" is a bulletin board system. And they also have "DO-IT," an MS-style DOS.

Looking Glass Software was showing a new PASCAL language called "ALICE." This language looks very user friendly; the language creates templates that save you a lot of typing time. The computer creates the begins, ends, semi-colons, and other basic parts of the program. This eliminates errors and (if you don't know PASCAL very well) will allow you to program from menus. It also has a trace function similar to BASIC in which the cursor moves through the program. It has help menus to ease problems and an interpreter so you can watch your program in action without having to compile it first. ALICE is a standard PASCAL, and comes with all of the applicable extensions from TURBO PASCAL.

Northern Design Systems was showing their "MI:CADDS," a full-featured 3-d CAD and drafting package. Features include: 255 layers, unlimited number of drawings attached to each other, individual sizes, scales, and definable forms for each drawing, and up to 8 axis rotation. The list goes on and on...

Supra was there showing their hard disk drives in 20Mb, 30Mb, and 60Mb sizes, and will be putting out a 240Mb drive soon. But the newest thing from Supra was their "SUPRA 2400," a 2400 baud modem which is going to retail for approx. \$200.00 (CAN)! Yes, that's Canadian funds! The modem is 100% Hayes compatible, comes with similar lights, has a built-in speaker, and comes in a metal case. It looks like a solid modem.

Digital Vision announced a new colour video digitizer, "Computer Eyes." I didn't get a chance to see the device, but from the pictures, it looks great.

Inagem Technologies was showing a program called "Inagem Agenda +," an integrated desktop organizer.

Another popular booth was the Word Perfect display. This is supposed to be the ultimate word processing package for the ST. The files created are compatible with the IBM Word Perfect. Features include footnotes / endnotes, GEM interface, macros, sort, 115000 word spelling checker, virtual memory, etc.

There were other things like Micro League Wrestling & Baseball where you could learn to be a manager... or a lecture by Dr. B. Careful on AIDS for grades 6-11. Or you could even see an Atari 2600 or 7800 playing video games...

Atari also announced their financial statement for the second quarter of 1987 ending July 4, 1987. Sales for the quarter were \$70,685,000 compared to \$60,709,000 for the same quarter last year, an increase of 16.4%. Sales for the six months ending July 4, 1987 were \$135,818,000 versus \$105,586,000 for the same period last year, an increase of 28.6%. Net income for the first half of 1987 was \$28,795,000 versus \$12,400,000, an increase of 132%.



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BLOCKADE RUNNER

AN ANNOTATED ACTION! PROGRAM

```
;BLOCKADE RUNNER
;by Mike E. Brown JULY 19, 1987
;portions of this program are
;(C) 1984, ACTION COMPUTER SERVICES
;written using OSS's ACTION!
```

```
;declare some 1 byte variables
BYTE A=[0],B=[0],I,FLAG,D,E,D1,D2,
    STICK0=632,STICK1=633,KEY=764,
    COL0=708,COL1=709,COL2=710,
    COL3=711,SC1=[0],SC2=[0],DMA=559,
    STRIG0=644,CNT,SPEED=[10],FL,
    ATTRACT=77,STRIG1=645,CONSOL=$D01F,
    WSYNC=54282,VCOUNT=54283,
    CLR1=53270,CHGCLR=[0],INCCLR1,INCCLR,
    CLR2=53271,CTR,CLR3=53273
```

```
;some double byte number (0-65535)
CARD C,DL
;some negative numbers (-32767 +32767)
;used for direction of movement
INT AY1,AY2,AX1,AX2,X1,X2,Y1,Y2
```

```
PROC WAIT(CARD DELAY)
;This will delay program execution
FOR C=1 TO DELAY DO
    OD
RETURN
```

```
PROC PAUSE()
;this looks for any to pause game
;and then waits for another key to
;resume play
KEY=255 SNDRST()
WAIT(1000)
WHILE KEY=255
    DO OD
    KEY=255
RETURN
```

```
PROC NOISE()
;create some sound for movement
SOUND(0,200,8,CNT) WAIT(1000) SNDRST()
RETURN
```

```
PROC DOEND()
GRAPHICS(18)
DMA=0
SNDRST()
POSITION(2,3) PRINTD(6,"player one -")
POSITION(15,3) PRINTBD(6,SC1)
POSITION(2,5) PRINTD(6,"PLAYER TWO -")
POSITION(15,5) PRINTBD(6,SC2)
DMA=34
```

```
FOR C=0 TO 100 DO
    FOR CTR=1 TO 5 DO
        INCCLR=CHGCLR INCCLR1=CHGCLR
        DO
            WSYNC=0
            CLR1=INCCLR1
            CLR2=INCCLR+10
            INCCLR==+1 INCCLR1==+1
        UNTIL VCOUNT&128 OD
        CHGCLR==+1
    OD
    IF SC1=10 OR SC2=10 THEN
        WAIT(45000)
    FI
RETURN
```

```
PROC DIE(BYTE WHO)
SNDRST()
IF WHO=1 OR WHO=3 THEN
    CNT=14
    DO
        COL1=CNT NOISE() CNT==+1
        UNTIL CNT=255
    OD
    SC2==+1
    IF WHO=1 THEN DOEND() FI
FI
IF WHO=2 OR WHO=3 THEN
    CNT=14
    DO
        COL2=CNT NOISE() CNT==+1
        UNTIL CNT=255
    OD
    SC1==+1
    IF WHO=2 THEN DOEND() FI
FI
IF WHO=3 THEN DOEND() FI
RETURN
```

```
PROC TITLE()
;draws a simple title screen
GRAPHICS(17) DMA=0 COL1=56 COL2=0
COL0=78 COL1=104 SNDRST()
DL=PEEK(560) POKE(DL+8,7)
POKE(DL+10,7)
POSITION(6,3) PRINTD(6,"BlOcKaDe")
POSITION(7,5) PRINTD(6,"RuNnEr")
POSITION(6,9) PRINTD(6,"speed 0")
POSITION(2,12) PRINTD(6,"trigger to
start")
POKE(DL+19,2) POKE(DL+20,2)
POKE(DL+21,2)
```


BLOCKADE RUNNER

```
POKE(DL+22,2) POKE(DL+23,2)
POSITION(1,14) PRINTD(6,"This Program
Was Written Using ACTION!")
POSITION(8,16) PRINTD(6,"ACTION! is
Trademark of")
POSITION(8,18) PRINTD(6,"ACTION
COMPUTER SERVICES")
POSITION(0,20) PRINTD(6,"Portions of
this program (C) 1984, A.C.S")
POSITION(8,22) PRINTD(6,"VER 1.1 by
Mike E Brown")
DMA=34
;get the speed selection
;joysticks up&down adjust speed
DO
I=COL1 COL1=COL0 COL0=I WAIT(3000)
IF STICK0=14 OR STICK1=14 THEN
SPEED==+1 WAIT(100)
IF SPEED=16 THEN
SPEED=1
FI
ELSEIF STICK0=13 OR STICK1=13 THEN
SPEED==+1 WAIT(100)
IF SPEED=0 THEN
SPEED=15
FI
FI
POSITION(13,9) PRINTID(6,SPEED)
PRINTD(6," ")
WAIT(1000)
UNTIL STRIG0=0 OR STRIG1=0
OD
;set scores
SC1=0 SC2=0
RETURN
```

```
PROC SETSCREEN()
;this sets the screen colors
;and draw the borders etc.
GRAPHICS(21) COLOR=1 DMA=0
COL1=72 COL2=118 COL0=200
PLOT(0,0) DRAWTO(79,0)
DRAWTO(79,47) DRAWTO(0,47)
DRAWTO(0,0)
X1=10 Y1=10 AX1=1 AY1=0
COLDR=2 PLOT(X1,Y1)
X2=69 Y2=37 AX2=-1 AY2=0
COLOR=3 PLOT(X2,Y2)
DMA=34
WAIT(30000) ;wait for a bit
RETURN
```

```
PROC JOYSTICKS()
;get joystick values and calculates
;player direction they want to go
A=STICK0 B=STICK1
IF A<>15 THEN
IF A=14 THEN AY1=-1 AX1=0
ELSEIF A=13 THEN AY1=1 AX1=0
ELSEIF A=11 THEN AX1=-1 AY1=0
ELSEIF A=7 THEN AX1=1 AY1=0
FI
FI
IF B<>15 THEN
IF B=14 THEN AY2=-1 AX2=0
ELSEIF B=13 THEN AY2=1 AX2=0
ELSEIF B=11 THEN AX2=-1 AY2=0
ELSEIF B=7 THEN AX2=1 AY2=0
FI
FI
X1==+AX1 Y1==+AY1
X2==+AX2 Y2==+AY2
ATTRACT=0 ;disable attract mode
RETURN
```

```
PROC KEY_CHECK()
;check for a game pause and also for
;a game end (any consol key)
FL=0
IF KEY<>255 THEN
PAUSE()
FI
IF CONSOL<>7 THEN
FL=1
FI
RETURN
```

```
PROC GAMELOOP()
;this is where most of the action
;happens
CNT=0 ;counter for sound
DO
;plot the border and set players
SETSCREEN()
DO
;get the joystick values for players
JOYSTICKS()
;check the new locations
D=LOCATE(X1,Y1)
E=LOCATE(X2,Y2)
;if both player are going to the
;same location kill both
IF X1=X2 AND Y1=Y2 THEN
COLOR=2 PLOT(X1,Y1) FLAG=3 EXIT
```

BILDKAIDE

```
FI
; if the space we're about to move into
; is not 0 (blank) then someone dies
IF D<>0 OR E<>0 THEN
  EXIT
FI
; plot the new location of each player
COLOR=2 PLOT(X1,Y1)
COLOR=3 PLOT(X2,Y2)
; add some sound (remove if annoying)
SOUND(0,CNT,10,6) CNT==+3
; check for a key press to pause
KEY_CHECK()
IF FL=1 THEN RETURN FI
; slow things down a bit
FOR I=1 TO SPEED DO
  WAIT(200)
OD
; first player ran into something?
IF D<>0 THEN
  FLAG=1
FI
; second player ran into something?
IF E<>0 THEN
  FLAG=2
FI
; both players ran into something?
IF D<>0 AND E<>0 THEN
  FLAG=3
FI
; do the death routine
DIE(FLAG)
; if scores are greater than 9 then
; the game is over - escape from this
; loop
UNTIL SC1=10 OR SC2=10
OD
RETURN
```

```
PROC MAIN()
; this is where it all happens
DO ; continuously
  TITLE() ; do the title screen
  GAMELOOP() ; do a game
OD
RETURN
```

BARBARIAN

Barbarian (ST)
Psygnosis Limited
Reviewed by Greg Granger

In Barbarian, an animated fantasy adventure, you are Hegor the Barbarian -- walking death to dragons and monsters. Your task is to enter the underground world of Durgan, which languishes under the evil thumb of Necron, and destroy his lair.

The game itself is extremely well done, the graphics very well detailed. You can see your sword come down into your enemy as you kill him, and you can see him turn into a puff of smoke and disappear. Another excellent feature of Barbarian is the sound. You can hear Hegor cry "Argh!" when he hits the floor after falling a great height, and hear him say "Get!" when he picks up an item. You can even hear the grunts of your enemies.

Barbarian uses the mouse to play, making it extremely easy to get the hang of. Keyboard and joystick can also be used, but the documentation particularly recommends that the joystick should be avoided. All of the operations are done through icons on the screen.

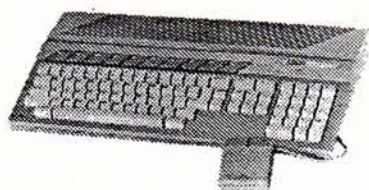
There are some minor quirks in Barbarian; specifically, you can somehow magically walk through walls. However, you can get out of this situation. I sincerely hope that Psygnosis plans to fix this little quirk. What about a save/load feature, you ask? In a game like this, I guess Psygnosis thought that "practice makes perfect", so they left it out. I wish that they would have included it, but c'est la vie, I guess.

Quirks aside, Barbarian is a very entertaining game, and will keep you glued to the computer until you solve it. I highly recommend this game to all of you adventure gamers out there; it would be an excellent addition to your library. Oh, and by the way, if you're wondering, I'm stuck at 22%. This is due to a lack of time to play the game. I have heard of people who have completed 68% of Barbarian. See you in Durgan, and good luck in destroying Necron!

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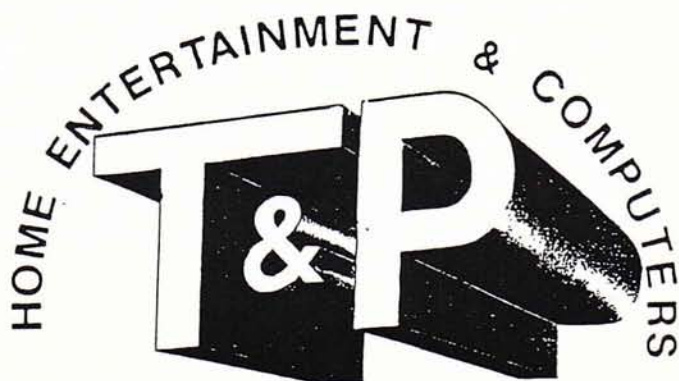
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1040ST DRIVE MODIFICATION

by David Beale

Have you experienced problems with the 1040ST internal disk drive? After some research, and problems from day one, here are some causes and a solution.

First, the symptoms. When a "file save" operation is attempted, the system (GEM, I believe) displays the dialogue box complaining that the write protect tab is open (protect mode). Upon checking the diskette, it was found to be in "write mode". This started to happen in the first week of operation, about once every 25 tries. In the last two months it has happened about 90% of the time! Further, and more importantly, when the disk is changed and the "esc" key is pressed to update the window (left open), some VERY strange things happen most of the time. Starting in order of least destructiveness:

1. The system tries but cannot read the disk for an update and displays the complaint box "something is wrong with your drive, please check the..."
2. The system updates the window but it contains garbage and several billion bytes.
3. The system updates the window BUT it contains files from the previous disk as well as the new disk; if you click on a file from the previous disk by mistake it CRASHES the machine totally (even ETERNAL is gone).
4. The system crashes totally (see #3).

In all cases but number 4, if you close and then reopen the window everything is fine (DO IT - it's better than losing the RAM disk and rebooting). Luckily, #4 occurs very rarely (only when you have something irreplaceable in the RAM disk). So what could be causing these symptoms?

If you shine a light into the drive slot of a 1040ST you can see, at the left front on the bottom (where the write protect tab fits), a small conical spring over a pin with a black press-on washer holding it. There is another one on the

same side at the rear of the drive. The front pin is the "write protect sense" pin, and the rear pin is the "diskette change" pin. The ST drive uses mechanical devices for this. Worse yet, however, these mechanical devices actuate a magnet, which operates a magnetic reed switch. There are two magnets directly beneath your diskettes! Obviously they are not powerful enough to bother anything.

The front pin tells the system if the write protect tab is open or closed and the rear pin tells the system if the diskette has been changed (try updating the window without changing the diskette - the drive will not turn - then remove and replace the diskette - the drive will be activated to do a directory read). If, for some reason, the front switch stays closed (a diskette in without write protect will close it) while the rear switch is cycled (diskette change), the system becomes VERY confused. Check your machine. This problem is fairly common, especially in early STs, but only with the internal double sided drives (1040STfs). Note that the new double sided external drives are the same as of August '87. The magnet is dislodged from the pin with rough diskette changes or the pin and spring are broken when a diskette is jammed in too steeply. Also, the front of the PC board in the drive can warp away from the magnet enough to prevent actuation.

This problem has an obvious solution - fix the front switch. It has to be the front one, since the ST is trying to read the new diskette - it saw the diskette change. At first I thought it was the reed switches, as they are notorious for unreliable operation (no wiping action). I checked them both with an OHM meter and they did short out as they should. Then I noticed that the PC board holding the reed switch had warped. It was close enough to operate the switch when cold, but once warm no way! No wonder the system is confused. By the way, this is really a bug (pardon me - an undocumented feature) in the system.

1040ST DRIVE MODIFICATION

Now, we know the problem, what to do to fix it? Just buy the appropriate part from Atari? They just swap the drive (\$160 please). Crazy glue? If the parts are still there and in good shape just glue the PC board down with silicone rubber (then it can still be removed if necessary). One owner with this problem noticed the pin and spring are GONE. A more elegant solution was called for.

Suppose we replaced the front pin, magnet, and switch with an infrared (IR) beam system, the way it should have been done in the first place? This requires a good knowledge of electronics and considerable skill with your hands. If you have some problem with either of these DO NOT ATTEMPT THIS MODIFICATION. Further, DO NOT install/remove a disk from the drive with either the plastic front panel or the metal top (it uses no screws) removed! You could easily ruin the heads or have the mechanism fly apart on you. See if you can find someone with the appropriate skills to do the mods. It is very easy to RUIN the disk drive (you must dismantle the drive motor in order to replace the switch). (Please note that neither Dave Beale nor EACH accepts responsibility for any damages you may incur to your system in attempting this modification. You should also be aware that attempting this mod will void your warranty. -Ed.)

To replace the switch, we will use an infrared (IR) beam. We need a detector with a light filter, since the user could have a light shining on it. The Ferranti BPW41D PIN photo diode is perfect for this as it has a filter built in. It's not very sensitive, but we do need to reverse its operation (it conducts when light shines on it), so we just add a high gain transistor to it as shown in the diagram (when the photo diode sees IR light it turns the transistor off - an open write protect tab passes light as well as the pin). (The diagram is on the cover. -Ed.) Now all we need to do is add an IR LED (light emitting diode) so as to shine on the

photo diode, and power it using the 5 Volt supply in the drive (the photo diode and transistor are powered by the sensing voltage already across the reed switch). The LED only needs 30 mA or so, which we set with a resistor of 100 ohms, and should not pose a problem for the power supply. If we want to replace both switches we could wire the LEDs in series so we still only draw 30 mA, but the resistor will have to be 37 ohms.

The transistor used is a Motorola MPFA18, an NPN transistor with an HFE of 500 min. A bias resistor of 220 kohm (front switch - 240 kohm for rear switch) supplies current to turn on the transistor (the photo diode bypasses this current to ground when illuminated with infrared light, thus turning the transistor off). The problem with this solution is in the installation. There is very little room! All old components must be removed and the pin hole drilled larger to admit light to the photo diode. Assemble the photo diode/transistor circuit and insert into the PCB, then carefully insert the PCB back into the drive. You must cut the LED to shorten it (part number is CD274 - any bright IR LED will work), and then repolish the end (start with #600 sandpaper, then use crocus cloth, and finish with baking soda on a piece of leather). You should use alcohol to keep the LED wet while polishing; you're done when the lens is clear enough to see easily through. Drill a hole to tightly fit the LED in the plastic movable top piece of the drive. Be careful to get it directly above the photo diode. Route the wires (use small flexible ones) to the rear of the plastic and then through the hole used by the motor leads and fix in place with tape and glue. Find +5V on the board and connect through your new resistor (the other lead goes to ground [the case]). Be sure to get the polarity right, and remember, you can't see the LEDs illuminate as they are infrared).

The circuit is simple and effective, therefore elegant! That problem solved, what's next? (Where did I put that ad for 1 Mbit chips?)

MEGA ST'S - MEGA LOSERS?

By Leroy Schulz

The Mega ST's are supposed to be Atari's new line of computers. But do they really offer what users want? Do they offer new features, expandability, and performance that is unrivaled in their price range? Should you sell your current ST and "upgrade" to a Mega ST? In this article I will attempt to separate the hoopla from reality, and bring you, the reader, the startling and disappointing conclusion.

Whatever happened to "Power Without the Price"? (Thanks to Chuck for this line.) Does Atari know what it's doing trying to sell a \$2000 piece of machinery to the home user (especially when market analysts determine the "perfect" selling price for a home computer is in the whereabouts of \$1000)? In my opinion, the answer is definitely NO.

I remember, back in January of this year, the rumours and rumblings of Atari's new computer -- the Mega ST. Well, that was eight months ago (count 'em), and we still don't have all the facts. Commodore (I know, I know, this IS an Atari magazine, but...) announced their new computers at approximately the same time Atari announced the Megs. I have yet to see anything but pictures of the Megs, while I see hard-core Amiga 500's and 2000's being sold already. This reminds me of the Old Commodore, which would announce new products and bring them to market months (years?) later. (What can you expect when the Old Commodore is the New Atari?)

Ok, well maybe the features will be worth the wait? WRONG. If you look closely you will find that a 1040ST has almost everything a Mega ST has, but for a lot less price. The Mega ST's have no new resolution modes, same number of colors, same sound chip, same ports, same disk drives, same software. The few new features are a built-in clock/calendar, an expansion (?) port, and (supposedly) new ROMs and a blitter chip. But I thought the ST didn't need a blitter chip. Hmm. Maybe Atari thinks it had better go the way of the Amiga and include all of these features. But since current ST's can use clock/calendars, the new ROMs and the blitter chip, why buy a Mega ST? So Atari can make more money off of you?

One thing the Megs have that the current ST's don't is an expansion port. Wait a sec, I thought the ST doesn't need to be expanded. Well, obviously Tramiel & friends have changed their minds. But let's take a look at this. About 3 years after the Amiga had an expansion slot, the Atari finally gets it. Correct me if I'm wrong, but doesn't it seem like Atari is copying many of the features the Amiga 1000 had 3 years ago? But what's this, the Amiga costs LESS than the Mega. How can that be? Mega ST1, 1 megabyte memory, blitter chip, clock/calendar, (supposedly) \$1000 US. Amiga 500, expanded to 1 megabyte memory, blitter chip, clock/calendar, \$900 US. Whoa, hold on a second. Doesn't the Amiga also include 3584 more colors, 1 more voice with stereo with a much better sound chip, multitasking, better screen resolutions, expandable to 9 megabytes, and an 880K disk drive? Yep. What about the Mega? Well, would you believe MIDI and an obsolete hard drive port being the only extras the Amiga doesn't have built-in that the Mega ST has?

Atari seems to have put very little money into R&D for the Mega ST's, while Apple, Commodore and IBM have put mucho dinero into their new computers. What is happening to Atari?

So why buy a Mega ST? You can have almost all the capabilities of a Mega in a 520ST or 1040ST. And the Mega loses out when compared to even the Amiga 500. I ask myself, what is so good about the Mega? Thanks for the memory.

Ok, I know a lot of you out there already have your word processors booted up and are itching to attempt to prove me wrong. Good, that's one of things I wanted this article to do, create more articles for REACH. Stay tuned for the editor's comments coming right up.

THE EDITOR:

I think that's my cue...

Well, if this article seems to be full of flaming, anti-Atari rhetoric, you can relax, because it isn't. Really.

First, to quibble with the facts there will be no Megal as originally announced (are you surprised?). The lowest Mega will be the Mega2, which is supposed to retail for roughly \$2300 CAN (see the

MEGA LOSERS?

report from the Toronto New Products Show elsewhere in this issue). This works out to about \$1600 US, an even greater discrepancy from the Amiga 500.

But... the Mega2 is not intended to compete with the Amiga 500. Atari has the 520 and 1040 to do that, and they seem to be performing the job quite adequately. No, the Megas are, it seems, intended for the business market, not the home market. As far as I can tell, just about the only reason the Megas have for existing is that they have the memory muscle to handle a laser printer. If you don't need a laser printer, if you don't need all that muscle, then it doesn't make a whole lot of sense to pay for it. But if you do need it, then nothing else will quite do.

What it comes down to is that most people probably will not be "moving up" to a Mega from their present ST, as Leroy recommends. But the Megas are available for the power users that need them.

Leroy also mentions the lack of "state-of-the-artness" (there's GOT to be a better word for it) in the Megas. Well, it seems to me that the ST was never really intended to be "state of the art." You may remember, way back in the February '86 ANALOG, Tom Hudson's comparison of the Amiga 1000 and the 520ST? It essentially boiled down to "well, the ST can do just about everything the Amiga can for a lot less money, so you should get an ST." Not for nothing is Atari's slogan "power without the price." The ST's give a lot of power for a reasonable price, but "state of the art?" I dunno... it seems to me that Atari hasn't been "state of the art" since a few years after the release of the 400/800... (heh-heh). (A few old-timer 8-bit sentiments creeping in there.) In any case, now that Atari is making some bucks again, they should be able to invest in long-range R&D and have some really hot machines in few years. We'll see.

Well, I hope I haven't upset any of you ST power users out there with my comments... and I'd like to take this opportunity to remind you once again that the above comments are Leroy's and mine alone, and do not in any way reflect the opinions of the club as a whole, etc., etc. And if I have to tell you one more time, it'll be straight to bed with no supper!

-Phil

XM301 TIMEBOMB

(Reprinted from WAND via Page Six, the newsletter of Caltari)

If you own an XM-301 modem, you may own an electronic "time bomb." After a rash of hardware failures which included smoking a disk drive and two printer interfaces, I found the cause of my trouble to be my XM-301. The modem works fine, but was killing off my system, piece by piece.

The problem has to do with the 13 wires coming from the Serial I/O plug, although only 9 wires are used by this modem. The other 4 wires have about 1/8 of an inch bare wire showing and are just hanging around un-terminated and waiting to touch something they shouldn't. I have checked other XM-301 modems and this condition exists in them also.

Here is what to do IMMEDIATELY! With all the power OFF, remove the 2 screws from the bottom of the modem and lift off the plastic case. Inspect the wires where they enter the modem. You will find 4 of the wires are not connected to anything. If these wires have any bare metal showing, cut it off. Be careful to keep the cut off pieces from falling into the modem. Next, tape each wire individually so it cannot possibly touch any other wires or parts in the modem. Put the modem back in it's case, replace the screws, and you are done.

-Paul Alhart

(Although this is a pretty simple fix, keep in mind that it may well void the warranty (although I'm not sure I would worry about that too much in this case) and that no-one takes any responsibility for what happens to your modem but you. -Ed.)

by Jeff Lewis

Round II: The View from Reality

Last month we took a look at where copyrights and patents came from and how they've changed since their original inception. This month we're going to look at the real situation of software and the various forms of copying that occur.

First let's take a look at what forms of copying exist. There are in essence 6 forms of copying:

1) Backup: Software is provided on a very fragile medium that is actually damaged by it's very use. Disk wear out. The magnetic material in them, while robust, is susceptible to failure and damage by external magnetic fields, many of which cannot be prevented or detected.

A good example of this happened many years ago on an American campus where they kept DecTape (a specific form of magnetic tape) on racks. They noticed that the tapes kept on the lower shelves had a tendency to fail far more regularly than the ones kept on the upper shelves. The room was periodically checked for magnetic fields and none were found. There were no power cables or heavy motors nearby; nothing to cause the erasures. It was only after several months of this that someone finally figured it out.

No one had realized that the floors were waxed with polishing machines. Every week, the cleaning staff would come in and wax the floors, running their machines right by the tapes and erasing the lower racks.

Since software can become critical for the efficient running, or even the running at all, of a company, a company and a user has the right to keep backups of software for just this sort of event, and moreover to have several such backups in widely separated places to ensure the safety of his system.

2) Evaluation: It used to be fairly simple to buy a piece of software for a computer. You'd contact the company who sold you it and asked if they knew of a piece of software that would do what you'd want. They'd look up your records, check out what you had and then tell you what would work with your system, and then suggest additional hardware that you could use to make the package work. You'd do it and then get on with work.

With the IBM-PC and the Apple II that changed to a great degree. The PC made even the video system uncertain and this, coupled with the lack of skill and knowledge of the rapidly growing legion of users, led to a whole new problem, and a whole new profession.

It became almost impossible to buy any sophisticated software and be certain that it would work with your particular machine. Worse, clones of PC's became popular because of the far lower pricing and these were almost NEVER exactly compatible (and rarely not-compatible in the same way from machine to machine).

There was almost no way that a software vendor could be certain that any given piece of software would work on any given clone (and now the PS/2... the IBM-manufactured 85% compatible IBM-clone). The only reasonable solution for this would be to have test copies of the software, limited versions that could be given out freely and tested by trial, or to make a copy of the actual software and let the user try it out for a while, trusting that the user would play fair and return it uncopied.

3) Cloning: This is a new entry in the field, and is just as much a form of copying as any other. When someone duplicates a program and offers it for much less, they are making money on the development of others. The many "look-and-feel" suits going on are testimony to the effect that low-cost knock-offs are "stealing" revenue from the big money players in the software

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field.

4) Collecting: There are people who feel a need to "have more than the next guy". Software is just as much a "collectable" as any other item. Thus we see people (kids mostly) building up the most amazing collection of software, most of which is completely useless to them.

Also there are games. Games are a real problem as they are just about the only form of "consumable" computer software. Once a game has been played, it is over and rarely useful again. Some games are repeatable, chess as an example, but most are played for a while and then discarded.

5) Acquiring: This is a mixed bag. Generally, a person "acquires" a piece of software because they feel they have a need for it and cannot obtain it for various reasons including lack of availability or lack of funds.

6) Distribution: This is what real piracy is. A person "acquires" a piece of software and then mass reproduces it and sells it for a fraction of the real price. Often the reproduction is so good that it is hard to tell it from the original.

Another form of piracy is using software as a form of currency, offering a program in exchange for a piece or pieces of software desired. Basically, any arrangement where the copier gains in money or property is piracy.

What I've listed are the major forms of copying in increasing degree of illegality. Make no mistake, ALL of these are illegal under the current copyright laws, unless specific permission is given from the copyright owner.

Let's look at them from the software producer's point of view:

1) Backup: If the user really needs this software that badly, they should buy a

spare copy; besides, most of the manufacturers offer "second-disk" deals that allow the disk to be purchased at a lower cost.

2) Evaluation: This only allows the user to make copies of the software and there is no way to ensure that no copy was made. If they can't get it to work on their machine, they can always take it back. Besides, if you buy nonstandard machines, you take your chances.

3) Cloning: All cloning does is allow someone to take advantage of our ideas and use them to hurt us. Why should we invest large amounts of time and money to develop a new product so some hack in a back room can take apart our software and then duplicate it at a tenth of the cost? We have to charge higher rates because that's how we make back the costs we have incurred making the software; costs that cloners never have. Worse, it stifles creativity. All that energy and money should be spent producing entirely new pieces of software with new and innovative ideas behind them, instead of just reproducing what's already been done.

4) Collecting: While it is true that these people are not really using the software and probably wouldn't buy it in any case, the fact remains that the software they collect is our property. They are stealing our goods and that's illegal.

5) Acquiring: The fact that a person needs a piece of software and can't find it or can't afford it is not the problem of the software manufacturer. Most offer their software by phone order and there are mail order retailers who can serve the needs of those unable to locate it. Besides, if you couldn't locate it, where did the original that the copy was made from come from?

As for not being able to afford it, that's not the problem of a software manufacturer either. The price is based on our cost not only to make the package,

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but the costs incurred in the development of it. Further, if our prices are all that high, the market will let us know. If it's too high, don't buy it, but that doesn't give a person the right to steal it.

6) Distribution: This is simple and outright theft, organised and on a massive scale.

And now, a word from the user's point of view:

1) Backup: When you sell a piece of software, it's my property. I have the right to set fire to it, to bend it, or to copy it for my own use. I've ALREADY paid for it, and I'm not stealing a thing from anyone. I've bought the software and I should be allowed to protect my investment, just as the software manufacturer protects his.

2) Evaluation: If the hardware and software manufacturers would get together and pick SOME sort of standard that we could be certain applies to all machines, or even all of the different machines that are supposed to be the same, then this wouldn't be necessary.

As well, so much software is terrible. It works erratically, is often misrepresented in advertising, or turns out to be totally impossible to use because the programmer decided to try something "innovative" (read "screwy"). Without evaluation, there is no way a person can afford to go out and buy one piece after another until the right package is found.

3) Cloning: It's fine for the software or hardware manufacturer to want us to buy only their product; that's normal. However, the first one out always charges a fortune. Worse, by locking out a class of software, it means that EVERY piece of software will have to be fairly different from each other. That means that every time a user buys a new piece of software, he'll have to sit down and figure it all out again, and then switch back and forth

from piece to piece. That's fine for the software expert, the computer whiz who can keep track of what Alt-PF3 does in thirty different packages, but that's not for the average users.

Also, what about the user who wants that program and can't afford it, or has a machine for which that package is not available? Look at Borland or Electronic Arts. EA stated in the past that they'd never release their software on the ST. So why can't someone clone their software at their own expense and time and fill in the gaps?

4) Collecting: Let's face it, collectors are harmless. As has been admitted, they never use the software they collect and they'd never buy the software anyway, so what's the problem? In reality, all they're doing is collecting a big box of disks and manuals, most of which they can't understand anyway.

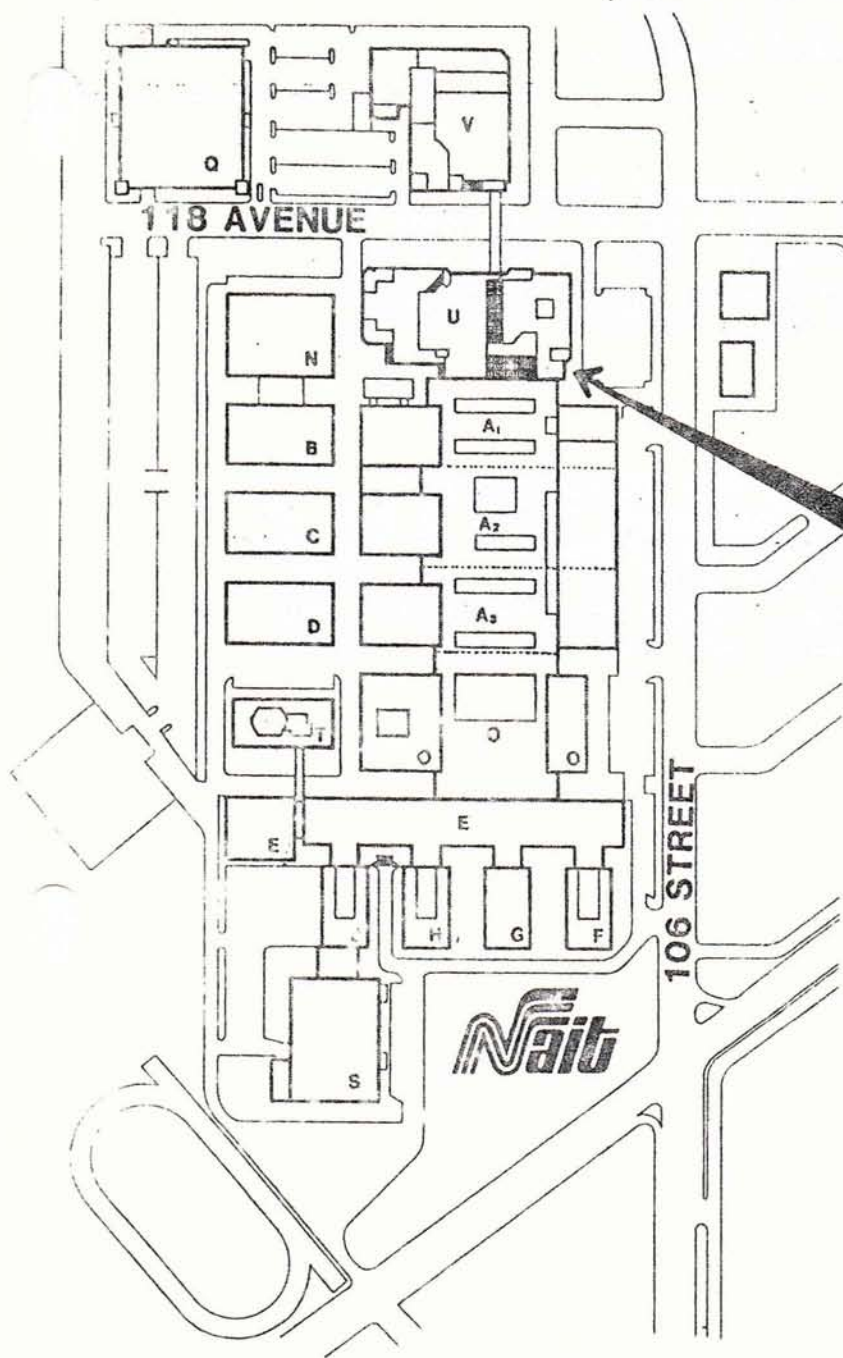
5) Acquiring: If software manufacturers sold their software at a reasonable price then people wouldn't have to acquire copies for their own use. It's not a person's fault if they just can't afford to go out and buy everything they offer.

I can't really think of anyone who supports mass selling of pirate software, so I'll stop there. By the way, the above are all taken from the words of people on both sides of the issue.

Next month, we'll finish this with a look at what the market place is really like and what can be done about this.

One last note: if you have any technical question on the ST, please feel free to leave me notes on the BEACH addressed to Jeff Lewis. I'll try and answer any questions I can.

(I could tell you that these are Jeff's opinions, and not necessarily those of the club or the executive or anyone else, but you knew that already, right? :-)
-Ed.)



ENTRY

TO ROOM U116 IN THE
CENTRAL SERVICES BLDG

EACH meets on the first **TUESDAY**
of each month at 7:15 pm at **N.A.I.T.**

THE FUTURE...

ST SIG MEETING: September 9

The next meeting of the ST Special Interest Group will be held Wednesday, September 9 at 7:00 in room A121 of the Central Services Building at NAIT. See the map on the inside back cover. If you want more information, call Lawrence Rozak (462-1526) or Keven Whitham (456-0077).

GENERAL MEETING: October 6

The next general meeting of the Edmonton Atari Computer Hobbyists is Tuesday, September 1 at 7:15 p.m. in room U116 of the Central Services Building at NAIT (see map on inside back cover). You won't have to fight for your right to party at our meetings! Bring your computer, new software, and any original stuff you want to swap or sell. See you there!

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